

Labour Market Analysis Guidance

For Food Security Analysis and Decision-Making

July 2013



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The *Labour Market Analysis Guidance* provides guidelines on how to conduct labour market analysis for food security assessments and public works programming.

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ACRONYMS

CFSAM	Crop and Food Supply Assessment Mission
CFSVA	Comprehensive Food Security and Vulnerability Analysis
EFSA	Emergency Food Security Assessment
FAO	Food and Agriculture Organisation
IFPRI	International Food Policy Research Institute
ILO	International Labour Organisation
PWP	Public Works Programme
VAM	Vulnerability Analysis and Mapping / WFP's Food Security Analysis Service
WFP	World Food Programme

Introduction

With the strengthening of WFP's food security and market analysis in recent years, it has progressively become clear that labour markets are an important determinant of households' food security and that understanding labour markets is essential to fully comprehend food insecurity.

Indeed several studies and analyses have shown that in developing countries very high proportions of the people in general and the poor in particular depend on labour markets to generate incomes and on food markets to access food.¹ In reality, for large proportions of the poor and food-insecure people, labour is their main or only asset and wage labor is their main source of income.² Hence, the terms of exchange between returns to labour and food constitute a critical element in the access of the poor and vulnerable to the food that they need.

Labour market analysis is therefore important not only for food security analysis but also for programming purposes. WFP uses public works programmes (PWP) as the means of transferring food and cash to its target groups in more than half of its assistance programmes. Such programmes aim simultaneously at income generation and infrastructure creation. If they can be targeted effectively at the poor and vulnerable, they can be an important instrument in the fight against poverty and food insecurity. Understanding labour markets is essential for the implementation of such programmes.

However, thus far the analyses of labour markets to increase informed decision-making in food security situations have been fairly limited.³ Little guidance and few tools exist on how to analyse labour market information that is relevant for food security, although such tools are important for situation analysis and the design of assistance programmes.

The purpose of this guide is to outline (i) how labour market analysis can be integrated into the analysis of food security and (ii) how wages can be attuned to ensuring food security of the households and individuals who participate in PWPs.

Section 1 focuses on the integration of labour market analysis into food security assessments.

Section 2 addresses the links between food security and wage rate in public works programmes.

Annexes provide background on concepts and contextual issues relating to employment and the labour market that are used in this Guidance.

The Guidance is designed for use in normal, crisis and post-crisis situations.

It is not intended to replace the existing WFP food security assessment guidelines. It is meant to be incorporated or used in conjunction with them, in particular the Comprehensive Food Security and Vulnerability Analysis (CFSVA) guidelines and the Emergency Food Security Assessment (EFSA) handbook.⁴

¹ See Annex 1 Why labour market analysis matters.

² A review of 20 country assessments undertaken by WFP during 2009-10 showed that agricultural and non-agricultural wage labourers constitute the single most important category of livelihoods, high proportions of whom suffer from food insecurity. See Annex 1.

³ See Annex 2 for a review of current food security analysis methods and existing gaps regarding labour market analysis.

⁴ It should also be possible to integrate the present guidelines into other food security assessment guidelines, e.g., FAO-WFP Crop and Food Security Assessment Mission (CFSAM), etc.

1. Integrating labour market analysis into food security analysis

This section addresses the following basic questions:

- Do the levels of employment and wages of the working members of a household yield adequate income for food security?
- Is the level of food security of a household related to the type (i.e., sector of economic activities) and level of employment and wages of its working members?
- Is food security systematically related to the employment status (i.e., whether one is an employer, an own-account worker, a regular employee or a casual worker)?
- Do conditions in the labour market reflect changes in the market prices of food or vice versa?
- How do the seasonal variations in the levels of employment and wage rates and prices of food grains affect the food security of households?

1.1. Data requirements and collection tools

Much of the data needed to address the questions listed above should be collected at the household level through a questionnaire. Some data may be collected by interviewing key informants using a structured questionnaire.

1.1.1. Household level data and collection tools

In order to obtain a basic picture of the labour market in a particular area and to examine its relevance for food security, the following data is necessary over a period of one year:

- an accounting of the employment type and level of the members of a household.
- data on wages and prices.

A full year's accounting is important because the rural societies of most developing countries are characterised by seasonal variations in economic activities and incomes.

Basic information

The basic information to be collected on all household members includes the gender, the age and the major activity of the person during the reference period (see Table 1). This serves as the basis for identifying the members of the labour force within the household.

The reference period for the major activity is usually one week. A person who is economically active (i.e., a member of the labour force) may be employed or unemployed. Persons who are not economically active may be categorised as such due to attendance at educational institutions (student), time spent running a household (homemaker), old age or disability. Such persons are not included in the labour force.

Table 1. Gender, age and activity status of household members

Serial no. or household member identification no.	Name	Gender 1. Female 2. Male	Age Years completed from date of birth to the survey date	Whether economically active 1. Yes 2. No If yes, go to Table 2. If no, go to next column.	If not economically active, major activity during the reference period (see list below)	Employed or unemployed

Note: List for persons who are not economically active:

1. Student
2. Homemaker
3. Elderly
4. Disabled
5. None of the above and not looking for any work.

Employment status

The employment status (i.e., whether one is an employer, a regular employee, an own-account worker, a casual worker or an unpaid family worker) of all working members of a household should be recorded (with separate identification of the household head).⁵

The “own-account worker” category should be further disaggregated into “professionals with high level education and skills” and “individuals running own petty enterprise” (see Table 2). Although households belonging to both these categories may be buyers of food in the market, the latter may find themselves in a more difficult food security situation.

Table 2. Sector of employment and employment status of employed household members

Employed member (Serial no. 1 to be reserved for the head of the household)	Gender 1. Female 2. Male	Age Years completed from date of birth to the survey date	Sector of employment [see list (i) below]	Status in employment [see list (ii) below]
1				
2				
3				
4				

⁵ See Annex 3 Concepts and definitions relating to employment and labour markets.

Note:

(i) Sectors of employment:	(ii) Status in employment:
1. Agriculture (1.1 crop production, 1.2 livestock & poultry, 1.3 forestry, 1.4 fishery) 2. Mining 3. Manufacturing 4. Electricity, gas and water 5. Construction 6. Trade, hotels and restaurants 7. Transport and communication 8. Finance and business 9. Real estate 10. Public administration 11. Education 12. Health and social work 13. Community and personal services 14. Others	1. Employer 2. Regular salaried employee 3. Casual wage worker (agr) 4. Casual wage worker (non-agr) 5. Self-employed/own-account worker 5.1. Professionals with high levels of education and training 5.2. Own-account worker in petty enterprise 6. Unpaid family worker

Man-days of employment

Data on employment and wages should be collected through a questionnaire at the household level. As for employment, the number of days of work performed by each employed member of a household in various economic activities should be recorded separately (see Table 3).

Table 3. Employment status in different economic activities (man-days by month)

Month	Crop		Livestock & poultry		Other agric. (forestry and fishery)		Non-agriculture		Total	
	Self	Wage	Self	Wage	Self	Wage	Self	Wage	Self	Wage
Jan										
Feb										
...up until										
Nov										
Dec										

Note: *Self* stands for self-employment and *Wage* stands for wage employment. This table can be modified and the data collected by season rather than month.

The record on employment should be disaggregated by economic sectors in which an individual is engaged. Likewise, within a particular type of economic activity, one may be self-employed or employed as a wage worker.

Rural-urban differences

The format that may be appropriate for rural areas may not be appropriate for urban areas. For example, in Table 3, provision has been made for recording the number of days worked in activities

related to crops, livestock and poultry, and other agricultural activities separately. Since employment in agriculture may be limited in urban areas, it may not be necessary to provide the same level of disaggregation for urban households.

Likewise, since non-agricultural activities may be limited in rural areas, the example in Table 3 shows one column only for all non-agricultural activities. In the urban areas where non-agricultural activities may be predominant, this category may be disaggregated to allow for different sub-sectors (e.g., construction, trade, transport, other services, etc.) within this category.

Seasonal variations

In order to capture the seasonal variations in employment, the data listed above should be recorded for each month during the year preceding the survey so that one full cycle of economic activities can be captured.

Table 3 shows the format for recording the number of days worked for each month (along the rows) during the year preceding the month of the survey. However, if it is not possible to record data on a monthly basis (especially in rural areas), the year may be divided into three or so broad crop seasons and the number of days employed may be recorded for each of the seasons (see Table 4). The data can be recorded by quarter as well.⁶⁷

Table 4. Employment status in different economic activities (man-days by season)

Season	Crop		Livestock & poultry		Other agriculture (forestry and fishery)		Non-agriculture		Total	
	Self	Wage	Self	Wage	Self	Wage	Self	Wage	Self	Wage
Season 1										
Season 2										
Season 3										

A variation can also be utilised to distinguish the highest and lowest periods of employment (see Table 5).

Table 5. Seasonal variations of employment status of household members

Serial no.	Month of highest and lowest employment			
	Highest		Lowest	
	Month	Days	Month	Days
1				

⁶ See also, seasonal variations of work through a seasonal livelihoods lens in the Food for Asset (FFA) Programme Guidance Manual –PGM- Module B, Page 2 on *Seasonal Livelihood Programming*.

⁷ See also a seasonal livelihood calendar where seasonal labour availability is featured as one of many indicators to be taken into account when designing programmes (PGM, Module B, Page 13).

2				
3				

Migration for work

It is common for members of poor households to migrate in search of livelihood, especially during periods when there is not enough work in the area of normal residence.

Migration may have gender and age dimensions. It is often the young men who migrate.⁸ This could have different implications for the food security of their household. On one hand, remittances sent by migrant workers contribute positively to the food security of the households. On the other hand, the absence of male workers may lead to the inability of households to participate in employment-based programmes. Hence, an understanding of the pattern and timing of migration is important in planning interventions to strengthen food security.

Data on migration should be collected for individual members of a household through the household questionnaire covering gender, age, period and duration of migration, type of work done by migrating workers and remittances sent (see Table 6). A column can also be inserted to collect information on the wages received by migrating workers.

Table 6. Data required on migration for work

Serial no. of the working member of the household	Gender 1. Female 2. Male	Age Years completed from date of birth to the survey date	Period of migration (the specific months of absence from household)	Number of total days of absence from household	Type of work done while away from home	Remittances sent (or money brought)

Note: The reference period for information sought through this table would be the 12 months prior to the date of the survey.

Wages

Data on wage rates should be collected for every month of the reference year for the different activities of each household member.⁹

For activities like crop production or informal construction, where wages are usually paid on a daily basis, the record should be the daily wage rate. For activities in which wages/salaries are paid on a monthly basis, the record of the information should be the monthly rate. Once the data is collected,

⁸ See PGM on migration as part of seasonal livelihood programming (Module B, Page 13).

⁹ For more information on wage rates, see the Work Norms section on the FFA PGM. Module D, Page 94.

the prevailing daily wage rates can be used to extrapolate a monthly rate to allow a comparison with activities for which wages are paid and recorded on a monthly basis.

When collecting and recording wage data, the cash equivalent of any part of the wage which is paid in kind should not be forgotten. In many developing countries, in kind payment is common in some sectors such as crop production. The cash equivalent of such payments should be added to the total cash payment in order to determine the total wage. The format for collecting wage data is shown in Table 7.

Table 7. Wage rates in different activities

Month	Casual worker in crop production (per day)	Casual worker in non-crop agriculture (per day)	Casual worker in construction (per day)	Salaried worker in other sectors (per month)
Jan				
Feb				
...up until				
Nov				
Dec				

Note: Depending on the actual situation, adjustments of additional or different columns can be made in order to disaggregate the non-agriculture sector and record wage/salary rates for the relevant activities.

1.1.2. Community/village level data and instruments for key informants

It may be possible to collect data on some of the variables listed above, e.g., wages and prices of food grains and livestock, at the community/village level by interviewing key informants.

Examples of instruments that may be used for this purpose are provided in Tables 8 and 9.

Table 8. Wage rates in the community/village

Period	Wage of casual worker in crop production (per day)	Wage of casual worker in non-crop agriculture (per day)	Wage of casual worker in construction (per day)	Salary of workers in other sectors (per month)
Current				
Three months ago				
Six months ago				
Nine months ago				
One year ago				

Table 9. Prices of food grains and livestock (per kg) in the community/village

Period	Rice	Wheat	Maize	Other major food grain (specify)	Buffalo/cow meat	Goat/sheep meat
Current						
Three months ago						
Six months ago						

Nine months ago						
One year ago						

1.2. Analysing linkages between employment, the labour market and food security¹⁰

Once the data has been collected using the tools presented in the previous section, the linkages between employment and food security should be analysed.

Links between the amount (man-days) of employment and food security status

The possible relationship between the amount (man-days) of employment per person and the household food security status should be explored.¹¹ Table 10 shows how to cross-tabulate the data.

The absence of a relationship or even an adverse relationship between the two variables cannot be ruled out. There may be poor households that work hard and yet are unable to ensure their food security.

Links between employment type/sector and food security

The possible relationship between employment type/sector and food security should also be analysed. Table 10 shows how to cross-tabulate the level of food security of households and the distribution of man-days of employment between agricultural and non-agricultural activities and between self and wage employment.

Table 10. Food security and employment (number of man-days per person per year)

Food consumption score	Agricultural employment			Non-agricultural employment			Total employment		
	Self	Wage	Total	Self	Wage	Total	Self	Wage	Total
Poor									
Borderline									
Acceptable									

Links between employment status and food security

The possible relationship between the employment status of the household head and the household food security status should be examined. Table 11 shows how to cross-tabulate food security levels and the employment status of the household head.

The question to ask would be: is the low level of food security a problem faced more by households whose heads are casual wage workers or own-account workers in activities involving low levels of education and skills?

¹⁰ It is difficult to find case studies where such analysis has been undertaken. There are, however, studies on employment and the labour market based on micro-level surveys. Some examples can be found in Khan, Islam and Huq (1981) on Bangladesh; Maitra (1982) on India; and Phongpaichit (1982) on Thailand.

¹¹ The food security status of households is based on their food consumption level.

Table 11. Food security and employment status of the household head (number and percentage of households)

Food consumption score	Employer	Employee		Own-account worker		Unpaid family worker	Total
		Salaried worker	Casual worker	Highly educated & skilled professional	Self-employed in petty enterprise/trade		
Poor							
Borderline							
Acceptable							

Comparison of wages and food grain prices

It is important to compare the wage rates and the prices of food grains and to examine the trends in the terms of exchange between labour and food grains.

Tables 12 and 13 show how to present and analyse the data.

Table 12. Wage rates and price of staple food grain (per day or per month)

Month	Crop production	Non-crop agriculture	Construction	Other non-agricultural activities	Price of the staple food grain (per kg)
January					
February					
...up until					
November					
December					

Note: If wage data cannot be collected on a monthly basis and are instead collected for seasons/quarters, the rows of the above table will be replaced by seasons/quarters (e.g., Season 1, 2, etc.). In that case, the price data in the last column will be presented accordingly by averaging the monthly figures.

Table 13. Terms of exchange between wages and price of the staple food grain

Month	Food grain equivalent of the daily/monthly wage in the sector (wage ÷ price per kg of the staple food grain)			
	Crop production	Non-crop agriculture	Construction	Other non-agricultural activities
January				
February				
....Up until				
November				
December				

Note: This table is to be constructed by using data from Table 12.

It is worthwhile exploring the following questions as they can provide important indications regarding the groups that may need additional attention.

- Which categories of labour face a more adverse exchange rate with the prices of food grains?
- Are the terms of exchange between the returns to labour and food grains different for various categories of labour during periods of sharp price rises?

Migration and food security

The issues relating to migration patterns and food security may be addressed using the data collected in Tables 14, 15, 16 and 17. They address the following questions:

- How effective is migration as a means of ensuring food security? See Table 14.
- Do the gender and age dimensions of migration conform to the expected pattern (i.e., is it primarily the young men who migrate in search of livelihoods)? See Table 15.
- How does the seasonal pattern of migration compare with the seasonal pattern of employment at home, and what is the implication of this comparison on the availability of labour for employment-focused intervention on food security? See Tables 16 and 17.¹²

Table 14. Migration pattern and the status of food security

Food consumption score	Number of days (per household) spent away for work	
	Female	Male
Poor		
Borderline		
Acceptable		

Table 15. Pattern of migration by gender and age

Age	Number of days (per age group in the household) spent away for work	
	Female	Male
16-25		
26-35		
36-45		
46-55		
Above 55		

Table 16. Seasonal variation in employment by sector (man-days of employment per person)

Month	Crop production	Non-crop agriculture	Construction	Other non-agricultural activities

¹² See an illustration of such dynamics in a pastoralist and agro-pastoralist setting in Kenya (PGM, Module B, Page 13).

January				
February				
...up until				
November				
December				

Table 17. Seasonal variation in employment (supplement to Table 16)

Month	Percentage of workers for whom employment was highest in this month		Percentage of workers for whom employment was lowest in this month	
	Male	Female	Male	Female
January				
February				
...up until				
November				
December				

1.3. Integrating labour market analysis into EFSAs

With minor modifications in the questionnaire tables (Table 1 through Table 7) and the tables with processed data (Table 8 through Table 17), the Guidance presented above may also be used in Emergency Food Security Assessments (EFSAs).

The necessary modifications are listed below for each specific questionnaire table.

- Questionnaire Table 1 may remain unchanged.
- Questionnaire Table 2 may remain unchanged.
- Questionnaire Table 3 may remain unchanged, with a note on the starting and ending months of the crisis.
- Questionnaire Table 4 may remain unchanged, with a note on the starting and ending seasons of the crisis.
- Questionnaire Table 5 may remain unchanged, with a note on the starting and ending months of the crisis.
- Questionnaire Table 6 requires the four columns beginning with “Period of migration” to be split into two sub-columns: one for “Normal period of the year” and another for “Crisis period of the year”.
- Questionnaire Table 7 may remain unchanged, with a note on the starting and ending months of the crisis.

In line with the modifications suggested above for the questionnaires, the tables with processed data may be modified in the following manner:

- Tables 8 and 9 require the preparation of two sub-tables for each: one with data on the situation before the emergency and another on the situation after the emergency.
- Table 10 may remain unchanged, with a note on the start time of the emergency.

- Tables 12 and 13 may each be prepared for a normal period and for a crisis period.
- Table 14 may remain unchanged, with a note on the start time of the emergency.

Analysis of data in Tables 1-17 makes it possible not only to examine changes in the labour market that have taken place as a result of the crisis but also to determine how the relationship between food security and labour market variables, e.g., sector and status of employment, wage rates, etc. may have been affected by the crisis.

1.4. Calculating basic labour market indicators

The following labour market indicators can be calculated by using data from the questionnaire tables previously presented in this Guidance. Since the questionnaires are designed to collect data on individual members of households, it should be possible to quantify the indicators with gender disaggregation.

Employment-to-population ratio

This is one of the Millennium Development Goals indicators (MDG 1B). It can be estimated as follows:

$$(\text{Total employment} \div \text{working age population}) \times 100$$

This household indicator can be calculated by using the data collected through Table 1. Working age population may be defined as those in age group 15-64 years.

Vulnerable employment

This indicator can be calculated by expressing the total of (i) casual workers (both agriculture and non-agriculture) and (ii) own-account workers in petty enterprises as the percentage of total employment in a household. This indicator would be similar to the MDG 1B indicator of vulnerable employment rate. Data for this indicator would be available from Table 2.

Employment deficit (or a time measure of unemployment)

This indicator can be calculated by dividing the total number of days worked per person per year by a determined norm for full employment. Taking into account one day of weekly holiday and a few days of leave per year, 300 days of work per year may be regarded as a norm for full employment. A person who has worked 260 days during the reference year may be regarded to have been employed nearly 87 per cent of the time (or unemployed for about 13 per cent of the time).

Migration for livelihood

The number of days worked by members of a household outside their normal place of residence can be expressed as the percentage of total number of days of employment of the household to get a measure of the extent of dependence on migration.

Seasonal variation in the labour market

Suitable indicators (e.g., range, coefficient of variation, etc.) of seasonal variation in the labour market can be calculated by using both monthly employment and wage data.

2. Labour market analysis and decision-making

Conditional food or cash transfer programmes and public works programmes (PWP) in particular are often implemented in low income countries with a view to providing food security to poor households. While such programmes have been in operation in many countries for several decades, they have assumed renewed importance in the context of increasing cases of natural disasters or high food prices. For example:

- After a natural disaster, PWPs can be useful in restoring damaged infrastructure and re-building the livelihoods of poor people who depend on their labour to make an income.
- After a sharp rise in food prices, PWPs help preserve access to food through social transfers (cash or food).
- During an economic downturn that results in job losses or when poverty is structural and the labour markets are characterised by seasonal fluctuations, PWPs are used as a means of creating jobs. They help stabilise the labour market as well as the food consumption of poor and vulnerable populations.

2.1. Setting wages in public works programmes

Wage rate and payment modalities as determinants of food security

The issue of what constitutes appropriate wage levels and payment modalities has been the subject of much debate in the last decades. There is no single formula for determining wage levels. It is possible to adopt different approaches.¹³

Apart from country level specificities, the factors to consider in a wage setting exercise vary depending on the identified objectives. Moreover, within a specific approach and objective, it is possible to use different criteria for setting a wage rate.

For example, in cash-based programmes pursuing a food security goal, it is important to consider the amount of food that can be bought with the cash wage and the purchasing power of the wage if prices increase. However, if the goal is to facilitate a move out of poverty, the wage rate would have to be set at a different level.

When food is used as the mode of payment, the problem is more complex and several issues need to be considered such as the amount of work that can be done during a given period of time (e.g., a day), establishing the equivalence of work in schemes of different types, the amount of food to be given per unit of work, etc.

Obviously the wages and the modalities for payment are key determinants of the individual/household's capacity to access food and maintain a minimum level of consumption. The wage paid (be it in food or cash) needs to ensure the food security of the participating households.

¹³ See Annex 4 Overview of the debate on the determination of wage rates in PWPs.

Recommended approaches

This Guidance presents approaches that would be useful in setting wages in programmes whose primary goal is to contribute towards the food security of poor and vulnerable households and whose specific objectives are to contribute to meeting households' subsistence needs as well as the promotion of their livelihoods.

With regard to these objectives, it may be possible to adopt different approaches to setting wages that range from using a single criterion of adequate nutrition and other basic needs to multiple criteria, e.g., basic subsistence, supply price (or reservation wage) of workers, etc.

This Guidance therefore presents approaches that combine the application of basic needs (including nutrition as well as other basic needs) and the reservation wages of the prospective workers.¹⁴

A wage rate derived from these approaches can be applied to both food-for-work and cash-for-work programmes. In schemes where payment is made on the basis of work done (i.e., on a piece rate basis), the daily wage rate determined can be used along with work norms to arrive at piece rates that would be consistent with the food security of households with employable participants in PWPs.

2.2. Approach based on nutrition and basic needs

Under this approach the starting point is the calorie requirement and other basic needs of individuals. The wage determined should ensure the food security and the fulfillment of the other basic needs of the participants.

Calculation Steps

The calculation of the wage rate involves three steps. To explain the method of calculation, the following acronyms are used:

TCR = Total calorie requirement per person per day

CSF = Calories/10 grammes of food grain

FRP = Food requirement per person per day

N = Number of members per household

FRH = Food requirement per household per day

TWR = Total wage rate

FCW = FRH = Food component of the wage

SFE = Share of food in total expenditure

Step 1: Calculate the food requirement per person per day (FRP)

Starting with a calorie requirement of 2,100 per person per day, and using the calorie provided by a unit of the major staple that is consumed in a country, it is possible to work out the amount of food grain that would be needed per person per day to meet that basic requirement.

$$\text{TCR} \div \text{CSF} = \text{FRP}$$

¹⁴ This is recommended rather than continuing with the principle of using a wage rate lower than the market as a means of self-targeting in public works programmes. These approaches would allow the simultaneous use of alternative means of targeting, e.g. community, geographic and demographic targeting. See Annex 4 for more details on the means of targeting.

Step 2: Calculate daily grain requirement per household

The next step is to scale up this figure to a household total by applying an average figure of the household size.

$$FRP \times N = FRH$$

Step 3: Calculate final wage rate (including necessary non-food items)

The third step is to add an amount to allow for the consumption of non-food items. This can be done by using a ratio of expenditure on food to total expenditure of poor households. The total of the amounts needed to meet basic calorie requirement and the cost of non-food items would give the wage rate.

$$TWR = FCW \div SFE$$

Example: Assuming that rice is the staple used in the country concerned and it provides 30 calories per 10 grammes, the requirement for 2100 calories would be 700 grammes.¹⁵ In a household of five persons, the total food grain requirement per day would be 3.5 kg.¹⁶ Next, it is assumed that the household to which the worker belongs is at the low end of the income scale where 65 per cent of the total expenditure is spent on food.¹⁷ Hence, in order to ensure a food consumption of 3.5 kg per day, the total income of the household in terms of food grain equivalent would have to be 5.38 kg (i.e. $3.5 \div 0.65$). Thus if the wage rate is set at approximately 5.5 kg per person per day, that would be adequate to ensure the food and other basic needs of the household concerned.¹⁸



This procedure can be applied in situations with different calorie requirements, food staples and calorie values as well as with different ratios of food-to-total expenditure.

It is worth noting that estimating calories provided by food grains alone is sometimes criticised for not taking into account the nutritional dimension of food consumption. An alternative procedure is to start from a basket of food items that provides a total of 2100 calories per person per day. However, this complicates the exercise and the calculation of the cost of the basic calorie intake.

Converting food grain to a cash figure

When wages are paid in cash, the amount of food grain can be converted by applying the appropriate price level.

¹⁵ 2100 calories per person per day is widely used to determine the poverty line and in estimating the incidence of poverty based on nutritional and basic need norms.

¹⁶ Calorie requirement is different for adults and children. To abstract from this complication, it is assumed for the moment that the size of a household is expressed in “adult equivalent”.

¹⁷ In low income countries, the share of expenditure on food as a proportion of total expenditure is found to be in the range of 55 to 70 per cent.

¹⁸ The assumption is that a typical household would be able to supply the labour of one working member to a PWP and that the household would depend entirely on that income for its subsistence needs. However, if circumstances indicate otherwise (for example, if households have alternative sources to supplement its income or there are multiple members contributing to its earnings), the wage payment may have to be adjusted. In making the adjustments, care should be exercised to ensure that work time is also adjusted in proportion with payment.

Basic recommendations

- The basic conversion from food to cash can be done by using retail prices of low quality food grains prevailing in the market nearest to the place of the PWP.
- In large countries and in countries where transport and communication are difficult, the prices may vary substantially between regions. The organisation implementing the PWP should divide the country into appropriate zones and apply prices accordingly.
- The cash equivalent of the wage rate should be adjusted periodically to changes in prices of food grains and other commodities. Under normal circumstances, adjustment once a year is adequate. However, in periods of sharp rises in food grain prices, more frequent adjustments are warranted. The frequency of such adjustments cannot be suggested a priori. The implementing organisation (if appropriate, in consultation with the government of the country) should determine the appropriate periodicity of such adjustments.
- Only the proportion of the wage representing food consumption should be adjusted. The rest of the wage representing the non-food basic needs should be adjusted by using the non-food inflation rate prevailing in the country.

Additional issues to consider

Specific characteristics of the labour market should be taken into consideration when calculating the rate.

- **Flexible participation:** Household members willing to work in a PWP may have other economic activities and may not be able to participate full-time. It is therefore important to schedule the work in such a way that labour-constrained households can participate flexibly (for example, for part of the day). The wage rate may have to be adjusted proportionately.
- **The reservation wage:** The nutrition and subsistence need-based approach doesn't take the reservation wage into account, that is, the wage rate below which each individual, whether actually employed or looking for work, would not be willing to work in a PWP. This floor represents the supply price of labour (or "reservation wage"). Even if the wage rate is adequate for achieving food security in an accounting sense, if it falls below the reservation wage of employable workers, the implementation of the programme may be jeopardised.

2.3. Approach based on the reservation wage of workers

The concept of reservation wage is rooted in the assumption that for each category of worker and type of employment, there is a wage rate below which the employable worker will not work even if the alternative is unemployment.

The reservation wage naturally varies depending on the worker's level of education and skills and on the type of work proposed.

This Guidance specifically considers workers with very little education and skills, and manual work in the construction or rehabilitation of infrastructure, assets, etc.

There are two broad ways of identifying the reservation wage:

- use of wages revealed by workers' behaviour in the labour market.
- workers' statements concerning their reservation wage.

Revealed reservation wage

The reservation wage of workers is gauged from data on wage rates in alternative employment opportunities that are at least broadly comparable to the employment in question. Such data may be available from secondary sources or from labour market surveys conducted specifically for food security assessment purposes (see Section 1 above).

PWPs may be undertaken during lean periods of economic activities. Hence, the starting point in setting the reservation wage is to look at the wage rates of activities undertaken during such periods or the earnings from self-employment in such activities. The lower end of wages in such lean season activities provides a first approximation of the reservation wage of unskilled workers. However, the lean season activities may not be strictly comparable to the PWPs activities. The latter involve harder physical work and may be less attractive even though alternatives may be unemployment or employment in very low productivity work with low wages. Hence, it may be appropriate to fix the reservation rate to add a "premium" (say, 20 per cent) to the wage rate prevailing in low wage activities during the lean season.

Stated reservation wage

If a labour market survey is carried out as part of a food security assessment or as preparatory to PWPs, employable household members may be asked about the wage rate below which they would not be willing to work in such a programme. The responses are most likely to be different for various individuals and households (depending on a variety of factors, e.g., income, alternative opportunities available, etc.). From the responses, it may be possible to construct a distribution of the labour force that would be available at various wages and the elasticity of labour supply with respect to wages. Table 18 provides a hypothetical example.

Table 18. Hypothetical example of stated reservation wage determination

Minimum acceptable wage for work in PWP (local currency unit)	Number of respondents willing to work at the corresponding wage	Percentage of total labour force	Cumulative percentage of total labour force
50	200	8.0	8.0
60	250	10.0	18.0
70	300	12.0	30.0
80	350	14.0	44.0
90	40	1.6	45.6
100	10	0.4	46.0
Total number of workers willing to work	1150	46.0	
Total number of workers	2500	100.0	

The number of workers in this community is 2500, out of which 1150 expressed willingness to work at various wage rates. Thirty per cent of the labour force expressed their availability within a wage of 70 LCU per person per day. At a wage of 80 LCU, 44 per cent of the labour force would be willing to work. If the incidence of poverty in this community is 40 per cent, it would be appropriate to set the

wage at 70 LCU from the point of view of availability of workers in order to target the majority of the poor (i.e. $30 \div 40 = 75$ per cent).

Box 1. Advantages and disadvantages of the revealed and stated approaches in identifying the reservation wage

Revealed approach

Advantages: The rate can be gauged from secondary data. Moreover, the project planner can apply it by using objective criteria. If a PWP has to be undertaken on an emergency basis, this approach may be more practical.

Disadvantages: An important precondition is the existence of alternative employment opportunities which can provide information about wage rates. In many situations, such opportunities may not exist during lean seasons.

Stated approach

Advantages: It is based on an empirical analysis of the preference expressed by prospective workers. The reservation wage identified through a survey with an appropriate sample size well reflects the preferences of potential workers.

Disadvantages: There is a subjective element as potential workers are asked to respond to questions which refer to an essentially hypothetical situation. The respondents may also overstate their reservation wage. This approach may not be suitable for emergency situations as implementing a survey for this specific purpose may be costly and time-consuming.

2.4. Wage determination combining nutrition, basic needs and the reservation wage

The reservation wage is an indicator of the supply price of labor. It may be different from the wage that is determined on the basis of a nutrition-based approach. It is unlikely that the wage rate derived from basic needs would be far lower than the reservation wage of workers in a labor market characterised by surplus labour. If it is, the wage rate adopted may be adjusted upwards as warranted by the reservation wage. If, on the other hand, the reservation wage falls short of the rate derived from the basic needs calculation, the latter may be adopted as the wage rate for PWPs.

The situation may be complicated by two issues:

- The existence of a legislated minimum wage in the country

When the legislated minimum wage is lower than the wage rate calculated on the basis of nutrition and basic needs or on the basis of the reservation wage, it may be advisable for a PWP scheme to adopt the higher of the two. This is not only justified on the basis of subsistence requirements but also because it could help exert an upward pressure on the wage rate prevailing in the market. In other words, the adoption of a wage rate based on subsistence requirement and reservation wage may lead to an overall upgrading of the labour market.

- The practice of paying wages in kind by using multiple items¹⁹

Whatever the means of payment, care needs to be taken to ensure that the total value of the in kind wage is at least equal to the value of the wage estimated on the basis of a single food grain. This would imply preparing a price list of the items used for wage payment and charts for estimating the cash values of both the item that is used for setting the wage rate and the items that are used for making payment in practice. The amounts of the items that would be equivalent to the set wage rate can be determined accordingly.

2.5. Wage determination when payment is made on piece rate basis

It is quite common in PWP to make payments on the basis of the amount of work done rather than per unit of time. This mode of payment makes it easier to link payment to the productivity of workers, plan PWP schemes, organise work on sites and monitor work progress.

Under this system, the first step is to calculate the quantities and types of work needed to be completed for a scheme. The total work is then divided into “work units” which can be carried out by individuals or groups of workers. Pre-determined “work norms” are used to estimate the time input and the number of workers that would be required for completing the scheme. Work norms represent the amount of work that an individual worker is expected to accomplish during a full day of work and are expressed in units of work, e.g., cubic metres of earth excavated, number of seedlings planted, amount of land weeded, etc.²⁰

As for wage payment, the question is how the work norm would be converted to a wage rate, be it in food or cash. This can be done easily once a daily wage rate is determined. See examples below.

Example 1: In Ethiopia²¹, the work norm for small farm dam construction has been set at 0.4 cubic meters (cm) per day of work (WFP, 2002). If the daily wage rate has been determined at 5.5 kg of rice per day, the piece wage rate for small farm dam construction would be 13.75 kg of rice per cm (i.e. $[1 \div 0.4] \times 5.5 = 13.75$).

Example 2: In Kenya, the work norm for planting seedlings has been determined at 205 seedlings per day (WFP, 2010). If a daily wage rate of 5.5 kg of rice is used, the piece rate of wages would work out at 2.68 kg per 100 seedlings (i.e. $100 \times 5.5 \div 205 = 2.68$).

Even when wage payment is made on the basis of work completed, it would be useful to have a benchmark daily wage determined. The daily wage rate can be used along with the work norms to arrive at wage rates per unit of work. For this purpose, it may be advisable to define the unit of work for different types of work in such a way that it is practical and easy to apply, e.g., for a cubic meter of soft soil excavation, for a square meter of dense bush cleared, etc.

Work norms vary from country to country²² depending on the local physical conditions, capability of workers, etc. One approach may be to determine the norms for every country and for each project

¹⁹ In a number of countries, especially in Africa, wages are paid in kind (cooked or dry food, milk products, etc.)

²⁰ For more information on work norms, see the Work Norms section on the FFA PGM. Module D, Page 94.

²¹ See an example of Work Norms from Ethiopia:

http://docustore.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp238161.pdf

²² See an example of Work Norms for Bangladesh

http://www.ilo.org/public/english/employment/recon/eiip/download/bangladesh_norms.pdf

separately. On the other hand, it may be useful to have some benchmarks based on country experiences and use them as the basis for further adaptation at the country and project level. Table 19 provides a list of such benchmarks based on the experience of a number of countries as well as the illustrative piece wage rates.

Table 19. Examples of work norms and piece wage rates

Type of work	Work norm (unit)	Piece wage rate (kg of rice / work unit)
<u>Excavation</u>	<u>(cubic meter per work day)</u>	
Soft soil	5.0	1.1 kg per cm
Medium soil	3.5	1.57 kg per cm
Hard soil	3.0	1.83 kg per cm
Very hard soil	2.0	2.75 kg per cm
Rock	0.8	6.88 per cm
<u>Site clearing</u>	<u>(square meter per work day)</u>	
Dense bush	100	5.5 kg per 100 sqm
Medium bush	200	2.75 kg per 100 sqm
Light bush	350	1.57 kg per 100 sqm
<u>Compaction manual</u>	<u>(cubic meter per work day)</u>	
	9.0	0.61 kg per cm
<u>Culvert laying</u>	<u>(cubic meter per work day)</u>	
Culvert installation	0.9	6.11 kg per cm
Concrete	1.0	5.5 kg per cm
<u>Farm road construction</u>	<u>(person per day per km)</u>	
	3,000	
<u>Road maintenance</u>	<u>(person per day per km)</u>	
	500	
<u>Seedling planting</u>	<u>(number of seedlings planted per work day)</u>	
	100	5.5 kg per 100 seedlings
<u>Weeding</u>	<u>(person-days per hectare)</u>	
	12	66 kg per ha.

Note: (i) Work norms are from ILO-ASIST (1998) and WFP (2002, 2010); (ii) Piece wage rates are calculated by using the work norms and a daily wage rate of 5.5. kg of rice per person per day.

Annexes

Annex 1. Why labour market analysis matters

Several analyses of food security conducted by humanitarian and development organisations show that large proportions of the population in developing countries are net buyers of food. For example:

- FAO (2008) found in an analysis of 12 developing countries of Africa, Asia and Latin America that in ten of those countries, large proportions of the poor are net buyers of food, while in two, nearly half the poor are net sellers of food.
- IFPRI (2008) points out that in both urban and rural areas the poor tend to be net food buyers, based on data from a number of countries, e.g., Bangladesh, Vietnam, Malawi, Nigeria and Zambia.
- WFP country level food security assessments corroborate these findings. At one extreme lies Yemen where 96 per cent of the people are net buyers of food. Even in rural Malawi, where 97 per cent of the households grow maize, only 59 per cent of total food consumed is accounted for by internal production, with the rest bought from the market. In Uganda, over 55 per cent of the households are net buyers of food.

High proportions of the people and the poor in particular depend on markets for food. Their access to food depends on the terms of exchange between their assets, products, services and food. For most poor people, labour power is their primary or only asset. Hence, the terms of exchange between labour and food are critical for food access.

Households' food security situations and their livelihoods are usually correlated. Based on a review of 20 country assessments undertaken by WFP during 2009-10, Islam (2011) shows that agricultural and non-agricultural wage labourers constitute the single most important category of livelihoods, high proportions of whom suffer from food insecurity. For example:

- In Lesotho and Malawi, around three-fourths of agricultural wage labourers have "low" or "borderline" Food Consumption Scores (FCS).
- In Yemen, two-thirds of the households in this agricultural wage category have low or borderline FCS.
- As for non-agricultural wage labourers, nearly 67 per cent of them in Lesotho, 62 per cent in Malawi and 55 per cent in Yemen are in low and borderline FCS groups.
- In countries for which no quantitative figures are available, wage labourers in agriculture and non-agriculture are qualitatively described as the single most important livelihood category that suffers from poverty and food insecurity.

The poor not only depend on markets for food, but large proportions of food-insecure people specifically depend on wage labour for their incomes which is therefore critical for accessing food. Hence, what happens in the labour market is extremely important for food security.

Annex 2. Labour market analysis: gaps in current food security analysis

1. Summary

Gaps in existing data and analysis

- Most food security assessments lack analysis of the linkage between labour market outcomes and food security. While the importance of the labour market is recognised, how labour market outcomes affect access to food has not been systematically analysed.
- Livelihood groups most seriously affected by food insecurity are identified, but how their access to food is affected has not been analysed.
- The importance of the terms of exchange between returns to wage labour and food grains and between returns from non-food production and food grains is recognised in some assessments, but data needed to quantify the statistics have not often been collected.
- Data and analysis of seasonal variation in the labour markets and in migration for work are often lacking.

Gaps in the existing food security analysis guidelines (CFSVA Guidelines, EFSA Handbook and CFSAMs Guidelines)

- Core modules often do not include questions relating to the amount of and returns to one's employment.
- There is very little or no guidance on how data on migration for employment and livelihoods are to be collected.
- Many important variables, e.g., access to food, are in the "key informant" part of the modules, not in the household questionnaires.
- Data on labour market conditions are only collected, if at all, from "market observations, traders and community level key informants".

2. Gaps in existing data and analysis

Despite the importance of labour market outcomes in influencing access to food, most assessments of food security do not explicitly incorporate this aspect in the tools that are used.

Access to food is one of the three pillars of food security (the other two being availability and utilization of food) that are recognised in food security assessments.

Comprehensive Food Security and Vulnerability Analysis (CFSVA)

In CFSVAs for which WFP collects primary data at household, trader and community levels, the information on "livelihood outcomes" and "livelihood strategies" are mainly used in a descriptive manner with no analysis of what happens in the labour market and how that influences access to food.

Four of these assessments carried out between 2009-11 in The Gambia, Malawi, Uganda and Yemen were reviewed.²³ The study found that:

- In all of them, livelihoods are an important element in identifying the profile of food-insecure households. In these countries, the groups most affected by food insecurity are: the wage workers and the self-employed. But in none of the analyses was information on the Terms of Trade between wage rates or the products of labour and food grains provided.
- An important aspect of food security, especially in rural areas of developing countries, is the seasonal variations in the availability and prices of food grains, economic activities, demand for labour, migration and non-farm activities. In the four cases studied, data on the seasonal variation in economic activities and food prices is usually available. Data on the seasonal patterns of migration is available only in the Uganda and The Gambia CFSVAs. None provide information on the seasonal variations in employment and workers' wages.
- There are some shortcomings in the classification of livelihoods which sometimes combine sectors of economic activities and status in employment. In The Gambia CFSVA, the different livelihoods were clustered into eight broad categories, viz., (1) cash crop production, (2) food crop production, (3) livestock and fishing, (4) self-employment, (5) salaried worker, (6) non-agricultural wages, (7) remittance receivers, and (8) others. The first three refer to economic activities while the next three refer to status in employment.²⁴ There may also be an overlap between the two broad groups. For example, some in cash crop, food crop and livestock sectors could be self-employed. In the Malawi CFSVA, employment status categories like self-employed, wage worker, etc. have been used alongside sector-based categories like food crop, cash crop, livestock, etc. Moreover, some self-employment activities like handicraft and petty trade have been shown separately.
- The aggregation of livelihoods for analysis purposes are at times arbitrary. In The Gambia CFSVA, the table presenting data on the percentage of food-insecure households by livelihood used six categories: livestock and fishing being merged with "cash crop" while "others" with "self-employment".

Emergency Food Security Assessments (EFSA)

One study (Islam, 2011) which examined 21 Emergency Food Security Assessments undertaken to analyse the impact of high food prices found (see Table 20):

- Only seven contained any information on changes in food prices relative to wage rates.
- Only three, viz., Cambodia, Ghana and Nepal, contained specific questions relating to the wages of workers in the household surveys. Even in these cases, a full-fledged analysis of labour markets was lacking.
- In four other cases, viz., Bangladesh, Guinea, Kenya and Pakistan, wage data was obtained from secondary sources.

²³ These assessments are listed in the References (WFP 2011; WFP 2010a; WFP 2010b; and WFP 2009a).

²⁴ Conceptually, it is not possible to state whether sector of employment or employment status would correlate more strongly with the degree of food security. Both these aspects of the labour market are important, and hence, the present guide suggests the use of both indicators. However, a distinction between the two needs to be clarified.

Table 20. Indicators of food security for selected developing countries, 2007-08

Country	Status in terms of income and food imports and exports	% of households with poor or borderline food consumption score	Change in terms of exchange between labour or crops produced by the household and food grains (2007-08)
Armenia	Lifd	23	Wages of construction workers declined by half; price of potato declined by 20% while that of wheat flour increased by 20%
Bangladesh	Lifd	25	The amount of rice that could be bought for a day's wage declined from 5-7 kg in 2007 to 3.7-5 kg in 2008
Benin	Lifd	n.a.	Terms of trade between cotton and maize deteriorated from 100 in July 2007 to 64 in July 2008
Burkina Faso	Lifs	n.a.	n.a.
Burundi	Lifd	2-11	n.a.
Cambodia	Lifd	12	The amount of rice that could be bought for a day's wage declined from 5.26 kg in June 2007 to 4.47 kg in June 2008
Cameroon	Lifs (oil exporter)	8-23	The amount of maize per litre of palm oil came down from 4.5 kg in November 2007 to below 3 kg in March 2008
Ethiopia	Lifd	27	n.a.
Ghana	Lifd	6	The amount of maize per day of wage decreased from 6.4 kg in Dec 2006 to 2.8 kg in July 2008, and the amount of rice from 2.5 kg to 1.9 kg
Guinea	Lifd	23	Between January and May 2008, real wages of casual unskilled workers declined sharply
Indonesia	Mifd	21	n.a.
Kenya	Lifs	n.a.	Wages remained static but food prices rose by 50% between Dec 2007 and June 2008; in the Wajir region, the meat-cereal price ratio declined from over 2 in Dec 2007 to 1.5 in April 2008 while in the Turkana region, the ratio declined from 0.7 to 0.5 in the same period.
Lesotho	Lifd	47	n.a.
Malawi	Lifd	48	n.a.
Nepal	Lifd	13-28 (urban-rural)	The amount of rice per day of wage declined by 7-17% in different regions (e.g., urban areas and hills)
Nicaragua	Lifs	36	The cost of a basic food basket increased from \$149 in 1998 to \$166 in 2006, but minimum wages did not increase
Pakistan	Lifs	28	The amount of wheat flour that could be bought for a day's wage declined by 30-112% in different regions
Swaziland	Mifs	14	n.a.
Tajikistan	Lifs	37-55	n.a.
Uganda	Lifs	n.a.	n.a.
Yemen	Lifd (oil exporter)	59	n.a.

Note: Lifd = low income food deficit; Lifs = low income food surplus; Mifd = middle income food deficit; Mifs = middle income food surplus.

3. Gaps in the existing food security analysis guidelines

Comprehensive Food Security and Vulnerability Analysis (CFSVA) Guidelines

- Its “core modules” with “non-changeable” questions (p.97) do not include anything on labour markets.
- The “core modules” with flexible questions include an item on “livelihoods/sources of income” (p.97); but the description of the item (p. 114-117) indicates that it is only intended to identify the livelihoods/economic activities of the households and does not include questions relating to the amount of and returns to one’s employment.
- One of the “non-core modules” with flexible questions includes an item on migration status (p.98); but there is no corresponding guideline on how data relating to this aspect are to be collected or how the issue is to be addressed. The list of topics to be covered by the key informant interview does include details on migration (p.182); but it appears that the idea is to collect information relating solely to migratory movements.
- Likewise, the topics of seasonality and livelihood analysis are covered respectively under “community discussion” and “focus group discussion” (p.182). However, the outcome in the four CFSVAs reviewed above shows that the results remained inadequate.

Emergency Food Security Assessment (EFSA) Handbook

- The EFSA Handbook recognises access to food as one of the three pillars of food security (p.23). It mentions food access indicators associated with livelihoods and suggests that they should reflect the “purchasing power of households based on (i) prices of key commodities, (ii) wage rates, and (iii) frequency with which labourers can find work” (p.67). The examples of food access indicators include purchasing power and terms of trade. The handbook points out the importance of defining the relevant terms of trade for each livelihood group (p.68).
- However, when it comes to the tools for collecting the needed data, the food access indicators of the kind mentioned above appear on the module of the “key informant questionnaire”, and not in the “household questionnaire” (pp 226-244). Of course, data on variables like prices of food grains and other products prevailing in the market and wage rates in the local labour market can be collected through such a questionnaire. Yet, in order to collect relevant data on the quantity of employment secured by members of a household, the wage rate at which they were employed, and the seasonal variation in these variables, it is necessary to include the topic in the household questionnaire and to make the relevant questions mandatory.

FAO/WFP Joint Guidelines for Crop and Food Supply Assessment Missions (CFSAMs)

- These guidelines recognise that households’ access to food depends, among other means, on purchases from the market, and that prices and cash incomes are critical variables. Paid employment, sale of crafts and other non-agricultural products, and cash transfer programmes such as cash-for-work are recognised as sources of cash incomes. The importance of understanding the seasonality of economic activities is also pointed out (pp 30-31); the labour market is included with other agricultural input markets and it is suggested that daily wage rates and changes in the demand for labor be compared with seasonal norms. The sample interview

guide adds that data on “labour market conditions” be collected from “market observations, traders, district/community level key informants” (p.310).

- Although paid employment and cash income from multiple sources are recognised as important variables influencing access to food, these elements are not integrated into the household data collection tools annexed to the guidelines. While useful data on prices and wages can be collected through questions posed to traders and other key informants, a full treatment of access to food at the household level has to include analysis of labour markets and the importance of returns from labour in determining access to food.

Annex 3. Concepts and definitions relating to employment and labour markets

1. Economically active population

“The economically active population comprises all persons of either sex who furnish the supply of labour for the production of economic goods and services as defined by the United System of national accounts and balances during a specified time-reference period.”²⁵

The production of economic goods and services includes all production and processing of primary products whether for the market, for barter or for own consumption, as well as the production of all other goods and services for the market.

The usually active population (or labour force) comprises all persons above a specified age whose main activity status during a long reference period (such as the 12 months preceding the survey) was “employed” or “unemployed” (according to definitions mentioned below).

The currently active population (or labour force) comprises all persons who fulfill the requirement of being employed or unemployed during a shorter reference period, e.g., one week or one day preceding the survey.

Employment

The employed comprise all persons above a specified age who were in the following categories during the reference period:

- (i) “Paid employment” (a) performed some work (at least for one hour) for wage or salary, in cash or in kind, or (b) may not have performed any work during the reference week for some reason (e.g., on holiday or sick) but is considered to be at work because the person continued to receive salary and/or is due to return to work at the end of the specified period.
- (ii) “Self-employment” (a) performed some work (at least for one hour) during the reference period either for profit or for own/family gain, in cash or in kind, or (b) was absent from work temporarily due to some contingency, e.g., sickness.

Unemployment

The unemployed comprise all persons above a specified age who, during the reference period:

- (i) were not engaged in either paid employment or self-employment according to the definition mentioned above;
- (ii) are currently available for work; and
- (iii) are seeking work.²⁶

²⁵ The definitions listed in this annex are based mainly on those suggested by the ILO as outlined in Hussmanns, et al., (1990).

²⁶ In situations where labour markets are not formally organised and where standard methods of seeking work (e.g., employment exchanges, newspaper advertisements, etc.) may not be relevant, the criterion of « seeking work » should be applied in a flexible manner.

2. Status in employment

Employer: A person who operates his/her own economic enterprise or engages independently in a profession or trade, and hires one or more employees.

Employee: A person who works for a public or private employer and receives remuneration in wages or salary, either in cash or in kind or a combination of the two. A distinction may be made between casual workers hired on a daily basis and regular employees.

Self-employed/own-account worker: A person who operates his/her own economic enterprise or engages independently in a profession or trade, but does not hire any employees. A distinction may be made between persons with high levels of education and training who work independently and persons with very little education and skills who work in petty enterprises of their own.

Unpaid family worker: A person who works without pay in an economic enterprise operated by a related person living in the same household.

Annex 4. Overview of the debate on the determination of wage rates in PWPs

The debate over the appropriate wage rate in food- or cash-based public works programmes in developing countries with surplus labour has been ongoing for nearly four decades. The major focus of the debate has been on what the wage rates should be in relation to prevailing market wages in activities such as agriculture, rural non-farm work and regular construction work.

In the early literature, the tendency was to argue for a wage lower than the market wage as a mechanism of self-targeting the poorest, especially in situations where the supply of labour exceeded the number of individuals that could be engaged with the given resources. However, the disadvantages of this self-targeting approach emerged in conjunction with alternative targeting mechanisms.

Advantages and disadvantages in the use of low, market-level or high wages

An early exposition of the problem associated with the setting of wages at a level higher than the market-clearing wage was provided by Amartya Sen (Sen, 1975). In the context of India's Crash Scheme for Rural Employment (which was in operation in the early 1970s), he showed analytically that payment of wages at such high levels would lead to an excess supply of labour and a consequent rationing of jobs. He cited examples of inappropriate selection of beneficiaries and the possibility of corruption in the execution of schemes when wages are set at high levels. He also demonstrated that when the total wage bill was given, a lowering of the wages would enable the project to not only avoid the possibility of corruption but also to employ more people, get more work done and to have a more equal distribution of the project resources.

Since then, there has been a plethora of literature as well as practical experience with the implementation of such programmes where the advantages and disadvantages of both approaches to wage setting became evident.

For example, Ravallion (1991) points out that with flexible wages, the coverage of PWPs can be wide while with a socially determined minimum wage, coverage would be low and the level of employment limited by budget constraints. Some (for example, Subbarao, 2003; Koohi-Kamali, 2010) focus on the desirability of keeping wages low in order for self-selection to work. Others (for example, Devereux, 2002; Chirwa, et al., 2004; Samson, et al., 2006; Lal, et al., 2010) point out the possibility of using alternative ways of targeting and allowing wages to perform the role of meeting the subsistence needs of poor households.

Indeed, issues relating to the role of wages in such programmes and in ensuring a basic subsistence income, as well as the concept of decent work²⁷, are increasingly coming into the foreground on the discussion on wage setting.

Table 21 presents a summary picture of wage rates in PWPs in comparison with the prevailing minimum wage and market wage in selected countries. The practice regarding wage setting varies depending on the country and period. In some countries, e.g., Bangladesh, India and South Africa, the practice of setting wages below the market wage appears to have been abandoned over time. In Argentina, on the other hand, the reverse seems to have happened.

²⁷ The notion of decent work was developed by the International Labour Organization in the late 1990s. An early definition articulated "opportunities for women and men to obtain decent and productive work, in conditions of freedom, equity, security and human dignity" (ILO, 1999).

Table 21. PWP's wage rates in relation to market wages and minimum wages in selected countries

Country (programme and period)	Programme wages (PW) compared to minimum wages (MNW) and market wages (MW)
Argentina <ul style="list-style-type: none"> • Cash for work 1997-2000 • Cash for work after 2000 	PW = MNW < MW PW < MNW < MW
Bangladesh <ul style="list-style-type: none"> • Cash for work 1991-92 • Emergency employment programme since 2008 	PW < MW PW = MW
Chile cash for work 1987	PW < MNW = MW
Ethiopia Productive Safety Net Programme since 2004	PW < MW
India <ul style="list-style-type: none"> • Cash for work, JRY 1991-92 • Maharashtra Employment Guarantee Scheme (MEGS) up to 1988 • MEGS after 1988 • National Rural Employment Guarantee Programme since 2006 	PW = MNW > MW PW = MNW < MW PW = MNW > MW PW = MNW
Kenya cash for work 1992-93	PW = MNW > MW
Philippines <ul style="list-style-type: none"> • Food for work 1987 • Cash for work 1990 	PW > MW PW > MW
South Africa <ul style="list-style-type: none"> • Expanded Public Works Programme (before 2009) • Expanded Public Works Programme (after 2009) 	PW < MW PW > MW

Sources: Subbarao (2003), BRAC (2009), Chirwa, et al. (2004), Mehrotra (2008), Samson, et al. (2006).

A description of the advantages and disadvantages associated with the setting of wages 1) at or above and 2) below prevailing market wages is presented in Table 22.²⁸

Table 22. Advantages and disadvantages of two approaches to wage setting

Level of wage	Advantages	Disadvantages
Wages at or above the market/ minimum wage	<ul style="list-style-type: none"> • Contributes to the goal of hunger reduction and food security • Complies with the notion of decent work and can serve as wage setter • Can facilitate the implementation of minimum wage legislation by strengthening the demand for labour 	<ul style="list-style-type: none"> • May attract the non-poor unless alternative targeting mechanisms are used • May necessitate job rationing • Offers limited contribution to redistribution of income for given public expenditure • May create possibility of corruption unless appropriate steps are taken
Wages below the market/ minimum wage	<ul style="list-style-type: none"> • Expected to help self-targeting • Reduces the possibility of corruption • Enables wider coverage 	<ul style="list-style-type: none"> • Undermines contribution to the goal of hunger reduction and food security • Conflicts with the concept of decent work • May conflict with the country's minimum wage legislation • Stigmatises employment in the programme

Additional points regarding the advantages of low wages and self-targeting and the disadvantages of high wages are often mentioned.

²⁸ These two approaches can be said to be the equivalent of what the ILO calls "wage setter" and "wage taker" approaches, respectively. See ILO-ITC (2011).

- Given the severity of poverty and lack of alternative employment opportunities in many low income countries, even very low wages do not deter the not-so-poor from competing for jobs in PWPs.

Example 1: In the case of Malawi Social Action Fund, Chirwa et al. (2004) mentions that even a wage much lower than what is required for basic subsistence was unable to perform the function of adequate targeting because less-poor people were eager to take up PWP jobs as a source of secondary income.

Example 2: In Ethiopia's Productive Safety Net Programme (PSNP), the wage rate was fixed at 6 Birr per day compared to 8 to 12 Birr for unskilled labour in the local labour market. While this did have some effect on targeting, there was competition even for such low wage employment and there was an excess supply of labour (Sharp, 2006).²⁹

- Problems of excess supply of labour and corruption in beneficiary selection when wages are high are often exaggerated. There are cases where these problems have been addressed through supplementary means of targeting, e.g., community involvement in the selection of beneficiaries.

Example 1: In South Africa's PWP, there are examples of wage rates higher than what is usually paid where community selection methods are used to ensure that participants are from the poorest households. In addition to the poorest, supplementary non-wage targeting is used to target the disabled, youth and women.

Example 2: In India's National Rural Employment Guarantee Programme (NREGP), the wage rates used are the minimum wages that are applied to agriculture. Given the universal nature of the programme and the rights-based approach adopted by it, the issue of targeting is not directly applicable in this case. However, the issues of excess demand for the jobs in the programme and exclusion errors do not appear to have been critical in its implementation. Targeting, on the whole, appears to have been accurate (Mehrotra, 2008). Also to be noted are community involvement and the application of social audit in the schemes under the programme.

Alternative targeting approaches

Given past experience, there are persuasive reasons for looking beyond low and flexible wages as an instrument for targeting the poor in PWPs. The basic argument starts from the notion of decent work. Although the concept of decent work and its definition does not include any specific guide regarding wage rates, it can be argued that a wage that would not be adequate for meeting the basic needs of the poor cannot be consistent with decent work.

One could even say that providing a wage which is lower than that prevailing in the unregulated labour markets of low income countries is unethical. Indeed, given the acuteness of poverty, the lack of alternative sources of income and the eagerness of the poor to grab any opportunity to add to their meager income, there is demand for jobs at very low wage rates.³⁰

Moreover, if PWPs are intended to contribute to the goal of reducing hunger and ensuring food security, the wage rate has to be set in such a way that it would contribute towards that goal. Hence, rather than using the wage rate as a mechanism for self-targeting, other ways of targeting the poor

²⁹ Employment in the PSNP was attractive because of its reliability, proximity of the work sites to home, and ability of people to work part-time without migrating.

³⁰ Devereux (2002) terms this approach not only unethical but also sub-optimal.

need to be explored. The following are some alternatives that may be considered in this regard (Devereux, 2002; Chirwa, et al., 2004):

Means testing

This is a conventional mechanism for targeting the poor where beneficiaries are selected on the basis of some indicator of poverty and need. Such indicators may be based on the labour situation of an individual/household (e.g., the unemployed, those who lost jobs as a result of economic reforms and restructuring, etc.), or on the household income and asset levels.

Job rotation

Under this method, rather than rationing a limited number of jobs to a certain group of people, work is provided to a group for a limited period (say, a month or two), after which the initial group is replaced by another for a similar period. A randomised approach can be adopted to distribute the job opportunities to households on an equitable basis.

Community-based targeting

If communities can be involved in the implementation of PWPs, the personal knowledge of their members can be used to identify the poor and vulnerable individuals who would be eligible for taking up the jobs under the programmes. While they can be assisted by the officials involved in the project in using officially determined criteria for the selection of beneficiaries, their knowledge at the local level could also be utilised to modify the selection criteria in an appropriate manner.

Geographic targeting

In countries where different regions are characterized by various levels of development and poverty, selecting the areas where the poor are concentrated could be one way of increasing coverage. Of course, there may be non-poor people even in a region where poverty is widespread, but the selection of an area with a concentration of poverty should make it easier to reach the target group.

Demographic targeting

Some groups of people, e.g., children, women, youth and workers (laid off as a result of economic restructuring or downturn), may suffer from a double disadvantage (i.e., poor as well disadvantaged within a household) and may have to be targeted specifically in PWPs. While children cannot be reached directly through labour market programmes, families with children may be targeted for particular attention and priority in the selection of beneficiaries. The kind of work available in PWPs is often considered to be less suitable for women. Particular attention would need to be provided to this aspect in the design and implementation of programmes if women are to be adequately covered by them.

Box 2. Examples of targeting mechanisms

Targeting through ***means testing*** is a widely used mechanism. A commonly used practice is to select beneficiaries based on their income status (i.e., whether they are poor) or other indicator of poverty. Poverty-line income is used in many countries for this purpose. Holding of assets is also used. For example, in Zimbabwe, only households that owned no livestock were eligible for food-for-work programmes. This targeting mechanism was, however, abandoned in 1992 because of evidence that certain households were selling livestock in order to be registered for the food-for-work programme (Devereux, 2002).

Job rotation as a mechanism for targeting was used in Tanzania's PWP. Project work was rotated among village cells to ensure an equitable sharing of wage work among the village population.

Community targeting as a mechanism was used in South Africa's Zibambele PWP, implemented by the Department of Transport in KwaZulu-Natal. The programme developed a good community targeting mechanism that ensured the participation of poor households, especially the female-headed ones.

There are some examples of ***geographic targeting*** in Bangladesh, Ethiopia and India. In Bangladesh, the cash-for-work programme that was initiated in the wake of high food prices in 2008 gave priority to poorer regions of the country (especially in the northwest). Ethiopia's Public Safety Net Programme focused on food-insecure areas as defined by the lowest administrative levels in the country. In India, the former food-for-work programme was implemented in 150 of the most backward districts. The National Rural Employment Guarantee Programme was initially implemented in 200 poor rural districts.

An example of ***demographic targeting*** is the Vulnerable Group Development Programme in Bangladesh which covers only poor and destitute women. In the Jobs for Peace programme in Nepal, the youth and ex-combatants were specifically targeted.

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